

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) Transceiver apparatus for use in a multi-frequency communication system, comprising:

a signal processor;

an antenna-switch comprising a multi-switch, a transmission-multiplexer and a reception multiplexer, wherein said multiplexers are controllable by the signal processor;

a frequency conversion circuitry having a transmission path and a reception path, wherein each of the paths communicatively connects the signal processor and the antenna-switch; and

~~an antenna terminal having a plurality of antennas connected to respective switches, each of the antennas having a transmission connector for connecting the transmission path to the antenna and a reception connector for connecting the reception path to the antenna first antenna and at least a second antenna that are connected to respective switches, the first antenna having at a first end a first transmission-connector for connecting the first antenna to the transmission path and having at a second end a first reception-connector for connecting the first antenna to the reception path, the at least second antenna having at a first end a second transmission-connector for connecting the at least second antenna to the transmission path and having at a second end a second reception-connector for connecting the at least second antenna to the reception path, wherein the antenna-switch, controllable by the signal processor, allows multi-frequency operation of the antenna terminal antenna terminal by combining a transmission-mode and a reception-mode of each of the antennas,~~

the signal processor controlling the respective switches of the antennas such that, at a particular instant in time, each of the antennas is configured as either a transmit-only antenna or a receive-only antenna.

2. (Currently Amended) ~~Transceiver~~ The transceiver apparatus as claimed in of claim 1, wherein the signal processor is an analogue-digital signal processor formed by a direct digital synthesizer driven phase locked loop radio frequency signal generator.

3. (Currently Amended) ~~Transceiver~~ The transceiver apparatus as claimed in of claim 1, wherein the frequency conversion circuitry comprises at least one of a local oscillator and a power divider to supply a local oscillator power to the transmission path and/or or the reception path or both the transmission path and the reception path.

4. (Currently Amended) ~~Transceiver~~ The transceiver apparatus as claimed in of claim 1, wherein the frequency conversion circuitry comprises a mixer device for converting the signal between an intermediate frequency and a radio frequency.

5. (Currently Amended) ~~Transceiver~~ The transceiver apparatus as claimed in of claim 1, wherein the frequency conversion circuitry comprises a direct conversion device for converting the signal between a base band frequency and a radio frequency, in particular by means of an IQ-method.

6. (Currently Amended) ~~Transceiver~~ The transceiver apparatus as claimed in of claim 1, wherein the antenna switch comprises a matching unit formed as a frequency regulated matching filter in order to provide an optimal matching factor for at least one of the antennas.

7. (Currently Amended) ~~Transceiver~~ The transceiver apparatus as claimed in of claim 1, wherein the antenna switch comprises a bus connection to the signal processor, wherein the bus-connection is formed as a matching network.

8. (Currently Amended) ~~Transceiver~~ The transceiver apparatus as claimed in of claim 1, wherein the antenna switch further comprises a beam forming matrix device, in

particular a Butler-output-matrix selected from the group consisting of: a 4x4, ~~a-an~~ 8x8 and a 16x16 Butler output matrix.

9. (Currently Amended) ~~Transceiver~~ The transceiver apparatus as claimed in ~~of~~ claim 8, wherein matching units are provided inside the Butler-output-matrix, in particular a modified Butler-output matrix output/input is formed as a frequency regulated matching filter in order to provide an optimal matching factor for at least one of the antennas.

10. (Currently Amended) ~~Transceiver~~ The transceiver apparatus as claimed in ~~of~~ claim 1, wherein the antenna terminal comprises a patching unit formed as a low-pass-filter to improve the matching of the antenna for different frequencies and/or for different modes of a multi-frequency communication system, in particular of a mobile cellular communication system or a personal communication system.

11. (Currently Amended) ~~Transceiver~~ The transceiver apparatus as claimed in ~~of~~ claim 1, wherein the antenna terminal comprises a matching unit for at least one of the antennas, in particular an LC component, in order to provide an optimal matching factor at least one of the antennas.

12. (Canceled).

13. (Currently Amended) ~~Transceiver~~ The transceiver apparatus as claimed in ~~of~~ claim 1, wherein at least one of the antennas is formed as an s-loop antenna having two ends formed as the transmission connector and/or the reception connector.

14. (Currently Amended) ~~Transceiver~~ The transceiver apparatus as claimed in ~~of~~ claim 1, wherein at least one of the antennas is configured as a copper wired antenna, in particular as a flexible line antenna made of copper.

15. (Currently Amended) ~~Transceiver~~ The transceiver apparatus as claimed in of claim 1, wherein at least one of the antennas is configured as a SMD-planar antenna.

16. (Currently Amended) ~~Transceiver~~ The transceiver apparatus as claimed in of claim 1, wherein at least one of the antennas has a body and the body comprises an integrated patching and/or matching unit.

17. (Currently Amended) ~~Transceiver~~ The transceiver apparatus as claimed in of claim 1, wherein the antenna beam is formed within a range of 200 degrees.

18. (Currently Amended) ~~Transceiver~~ The transceiver apparatus as claimed in of claim 1, wherein the antenna beam comprises a 90 degree beam, in particular the beam is formed by a 50 degree main beam and two 20 degree side beams.

19. (Canceled).

20. (Currently Amended) ~~Method—A method~~ A method of transceiving a multi-frequency signal in a multi-frequency communication system, comprising the steps of:
processing the signal in a signal processor;
operating an antenna terminal by an antenna-switch comprising a multi-switch, a transmission multiplexer and a reception multiplexer, wherein the multiplexers are controlled by the signal processor, and transceiving the signal by means of at least a selected one of a plurality of antennas of the antenna terminal, the antennas being connected to respective switches, antenna terminal having a first antenna and at least a second antenna that are connected to respective switches, the first antenna having at a first end a first transmission-connector for connecting the first antenna to the transmission path and having at a second end a first reception-connector for connecting the first antenna to the reception path, the at least second antenna having at a first end a second transmission-connector for connecting the at least second antenna to the transmission

path and having at a second end a second reception-connector for connecting the at least second antenna to the reception path; and

frequency converting the signal in a frequency conversion circuitry wherein frequency converting of the signal in the frequency conversion circuitry is established on a transmission path and a reception path, wherein each of the paths communicates the signal between the signal processor and the antenna switch,

wherein multi-frequency antenna terminal operation is established by combining a transmission-mode of the antenna and a reception-mode of the antenna, controlled by the signal processor, by means of the antenna-switch, and communicating the signal between the transmission path and the selected antenna via the transmission multiplexer and a transmission connector of the antenna and between the reception path and the selected antenna via the reception multiplexer and a reception connector of the selected antenna.

the signal processor controlling the respective switches of the antennas such that, at a particular instant in time, each of the antennas is configured as either a transmit-only antenna or a receive-only antenna.

21. (Currently Amended) ~~Method as claimed in~~ The method of claim 20, comprising frequency converting the signal in a frequency conversion circuitry between a base band signal and a radio frequency signal.

22. (Currently Amended) ~~Method as claimed in~~ The method of claim 20, comprising frequency converting the signal in a frequency conversion circuitry between an intermediate frequency signal and a radio frequency signal.

23. (Currently Amended) ~~Method as claimed in~~ The method of claim 20, wherein a reference of an incoming signal is processed in an antenna switch after checking a beam direction and a signal quality, in particular based on a BER-measurement.

24-29. (Canceled).

30. (Currently Amended) A communications transceiver comprising:
~~multiple antennas having respective switches;~~
an antenna terminal having a first antenna and at least a second antenna that are connected to respective switches, the first antenna having at a first end a first transmission-connector for connecting the first antenna to the transmission path and having at a second end a first reception-connector for connecting the first antenna to the reception path, the at least second antenna having at a first end a second transmission-connector for connecting the at least second antenna to the transmission path and having at a second end a second reception-connector for connecting the at least second antenna to the reception path;

a transmission path;

a reception path;

a transmission multiplexer coupled to the transmission path and to the ~~multiple first and at least a second~~ antennas;

a reception multiplexer coupled to the reception path and to the multiple antennas;
and

a processor;

wherein the processor controls the transmission multiplexer and the reception multiplexer such that during transmission the transmission path is coupled to a selected antenna of the first and at least a second antennas and during reception the reception path is coupled to a selected antenna of the first and at least a second antennas; and

wherein the processor controls the respective switches of the ~~multiple~~ the first and at least a second antennas such that, at a particular instant in time, each of ~~the multiple~~ the first and at least a second antennas is configured as either a transmit-only antenna or a receive-only antenna.

31. (New) The communications transceiver of claim 30, wherein each respective switch of the first and at least a second antenna comprises a bus connection to the processor, wherein the bus connection is formed as a matching network.

32. (New) The communications transceiver of claim 30, wherein each of the respective switches of the first and at least a second antenna comprise a beam forming matrix device of the Butler-output-matrix type selected from the group comprising a 4x4, an 8x8 and a 16x16 Butler output matrix.